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Handique(10) **Pub. No.: US 2008/0160601 A1**(43) **Pub. Date: Jul. 3, 2008**(54) **HEATER UNIT FOR MICROFLUIDIC
DIAGNOSTIC SYSTEM****Publication Classification**(76) Inventor: **Kalyan Handique, Ypsilanti, MI
(US)**(51) **Int. Cl.**
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MINNEAPOLIS, MN 55440-1022(57) **ABSTRACT**

The present technology provides for a heater substrate that contains networks of heater elements configured to controllably and selectively deliver heat to one or more PCR reaction chambers in a microfluidic substrate with which the heater substrate makes contact. In exemplary embodiments, the heater substrate can deliver heat to 12, 24, 48, or 96 chambers independently of one another, or simultaneously. The heater substrate is located in a heater unit that may be introduced into a diagnostic apparatus that can receive and position a microfluidic substrate, such as in a cartridge, in contact with the heater unit, receive one or more polynucleotide containing samples into one or more lanes in the microfluidic substrate, and cause amplification of the polynucleotides to occur, and detect presence of absence of specified polynucleotides in the amplified samples.

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